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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,518	07/28/2003	Gregory A. Ehlers	68,180-007	4284

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EXAMINER

SHECHTMAN, SEAN P

ART UNIT PAPER NUMBER

2125

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/628,518	Applicant(s) EHLERS ET AL.	
	Examiner Sean P. Shechtman	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20,53-65 and 80 is/are pending in the application.
- 4a) Of the above claim(s) 1-10,21-52,66-79 and 81-83 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20,53-65 and 80 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/20/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 11-20, 53-65 and 80 are presented for examination. Claims 1-10, 21-52, 66-79, and 81-83 have been withdrawn from consideration.

2. In the claim listing, applicant inadvertently forgot to show the status of claims 1-10, 21-52, 66-79, and 81-83 indicated after its claim number by using the withdrawn identifier in parenthetical expression. Any further amendments will be required to meet the guidelines set forth in 37 CFR § 1.121.

Election/Restrictions

3. Applicant's election without traverse of claims 11-20, 53-65 and 80 in the reply filed on October 12th 2004 is acknowledged.

Information Disclosure Statement

4. The information disclosure statement filed April 20th 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

5. Figures 1A and 1B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated (See page 3, paragraph 11 of the instant specification). See MPEP § 608.02(g).

6. The drawings are objected to because referring to figures 1A and 1B, applicant has clearly taught element 1.04 as prior art in page 3, paragraph 11 of the instant specification. It is

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not clear if this means the entire figure is prior art, or just the elements referenced by the reference character 1.04. Furthermore, it is not even clear what elements are intended to be referenced or depicted by the reference characters 1.02, 1.04, 1.06, 1.18, and 1.24 in figures 1A and 1B. For example, where, in the drawing, is the difference between elements 1.18 and elements 1.04?

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "1.04" and "1.06" have both been used to designate a customer site (See page 9, paragraph 59 of the instant specification).

8. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the service provider for element 1.24 in figure 1B as described in the specification on page 12, paragraph 73. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description: Fig. 3A, elements 3.06E and 3.06F (See page 29, paragraph 149 of the instant specification).

10. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the energy being supplied from an energy provider through a distribution network (Claims 11 and 53) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. The examiner recognizes that some figures show a mains coupler, however, the examiner respectfully submits that a mains coupler does not meet the limitation of energy being supplied from an energy provider through a distribution network. Furthermore, applicant clearly distinguishes between

the mains coupler and energy being supplied from an energy provider through a distribution network on page 38, paragraph 185 of the instant specification.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

11. The examiner has provided a number of examples of the drawing deficiencies above, however, the list of deficiencies may not be all inclusive. Applicant should refer to these as examples of deficiencies and should make all the necessary corrections to eliminate the drawing objections.

Specification

12. The abstract of the disclosure is objected to because “the node for controls the supply of energy to the device” is not clear. Correction is required. See MPEP § 608.01(b).

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13. The disclosure is objected to because of the following informalities: Referring to page 36, paragraph 179, the examiner respectfully submits that processor 2.20 should be rephrased processor 2.02. Referring to page 65, paragraph 254, the examiner respectfully submits that Fig. 1E should be rephrased Fig. 3E. Appropriate correction is required.

14. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are:

Referring to pages 1-4, applicant's admitted prior art (hereinafter referred to as AAPA) appears to include all or some of the elements from figures 1A and 1B, and the discussion of the (AAPA) along with figures 1A and 1B teach every aspect of independent claims 11 and 53 except the humidity sensor and its function in determining the effective setpoint. However, applicant does not predicate patentability on either the humidity sensor or its function in determining the effective setpoint on page 4, paragraph 15 – page 5, paragraph 17 of the instant specification.

Referring to page 9, paragraph 59, applicant teaches that a customer site is indicated by reference numeral 1.04, and then applicant teaches managing delivery of electricity to the customer's site 1.06.

Claim Objections

The claims are objected to because of the following informalities:

15. The amendment filed October 12th 2004 contains a heading on each page of the claim listing that indicates the claims are for Application No. 10/375,394, however, the current application is Application No. 10/628,518. The examiner respectfully requests clarification as to which application the current claims are intended to be prosecuted in. For purposes of examination, it will be assumed that the current claims are intended to be prosecuted in Application No. 10/628,518.

16. Referring to claim 20, line 3, "the thermostatic device control" should be rephrased the thermostatic device controls.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-20, 56, 61-65, and 80 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

17. Claim 17 recites the limitation "the predetermined offset" in line 4. Claim 20 recites the limitation "the predetermined offset" in line 4. Claim 61 recites the limitation "the customer" in line 2. Claim 63 recites the limitation "the system" in line 3. Claim 80 recites the limitation "the scenario" in line 1. Claim 80 recites the limitation "the customer" in line 2. Claims 16 and 56 recites the limitation "the predetermined number of degrees" in line 2. Claims 16 and 56 recites the limitation "the predetermined percentage change in relative humidity" in lines 2-3. There is insufficient antecedent basis for these limitations in the claim(s).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 11-14, 17-19, 53, 54, 57-59, and 61-65 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,924,486 to Ehlers (See IDS filed 4/20/04).

Referring to claims 11 and 53, Ehlers clearly teaches a system for managing environmental comfort at a site, the site having a temperature and environment management system (Abstract), the temperature and environment management system being supplied with energy from an energy provider through a distribution network (Abstract; Col. 3, lines 8-12; Col. 19, lines 1-8), comprising:

a humidity sensor for sensing humidity at the site and a temperature sensor for sensing air temperature at the site (Fig. 3, element 8); and

an thermostatic device coupled to the humidity sensor and the temperature sensor for receiving input from a user (Fig. 3, element 30), the input including a temperature setpoint (Col. 9, line 66 - Col. 10, line 14), the thermostatic device for determining an effective setpoint as a function of the temperature setpoint and the sensed humidity (Col. 7, lines 16-37; Col. 12, line 47 - Col. 13, line 4) and for controlling the temperature and environment management system (Col. 14, lines 12-19) to maintain air temperature at the site with a deadband defined by the effective setpoint and an offset (Col. 7, lines 37-52; Col. 15, line 64 - Col. 16, lines Fig. 5).

Ehlers clearly teaches input interface 14 allows user input of temperature setpoint (Col. 9, line 66 – Col. 10, line 13). Ehlers clearly teaches input function 15 provides interface for temperature and humidity sensors (Col. 10, lines 15-30). Ehlers clearly teaches process function reads sensor inputs and user data and based on the data, a setpoint temperature variance is determined to provide the proper control to meet user requirements, including a deadband and minimum and maximum temperature range (Col. 12, lines 47-67). Ehlers clearly teaches output provides control of heating and cooling equipment based on said process function (Col. 14, lines 12-19).

Referring to claim 12, Ehlers teaches the system and method above, wherein the thermostatic device includes a processor (Col. 7, lines 16-30), a communications channel coupled to the temperature and environment management system (Col. 7, lines 53-58), a display coupled to the processor (Col. 7, lines 36-44), and a control panel coupled to the processor for receiving input from the user (Col. 7, lines 1-10).

Referring to claims 13 and 54, Ehlers teaches the system and method above, wherein the thermostatic device receives a characteristic of the energy and displays the characteristic on the display (Col. 16; Fig. 5; Col. 30, lines 30-35).

Referring to claim 14, Ehlers teaches the system and method above, wherein the display and control panel are implemented in a graphic user interface (Col. 13, line 62 - Col. 14, line 10; Col. 14, lines 65-67).

Referring to claims 17 and 57, Ehlers teaches the system and method above, wherein the thermostatic device is coupled to the energy provider by a communications link (Col. 8, lines 36-

43), the thermostatic device receiving a characteristic of the energy, wherein the thermostatic device modifies the predetermined offset as a function of the characteristic (Col. 16; Fig. 5).

Referring to claims 18 and 58, Ehlers teaches the system and method above, wherein the characteristic is related to availability of the energy (Col. 11, lines 38-65).

Referring to claims 19 and 59, Ehlers teaches the system and method above, wherein the characteristic is related to a cost of the energy (Col. 8, lines 49-54; Col. 12, lines 16-28; Col. 18, lines 55-65).

Referring to claim 61, Ehlers teaches the method above, further including the step of allowing the customer to define a plurality of occupancy modes, each occupancy mode having a user defined temperature setpoint (Col. 4, lines 47-50; Col. 21, line 56 - Col. 22, line 3).

Referring to claim 62, Ehlers teaches the method above, wherein each occupancy mode includes a default offset (Col. 4, lines 47-50).

Referring to claim 63, Ehlers teaches the method above, wherein *at least one* occupancy mode has an associated recovery time (Col. 39, lines 48-60), the recovery time being a desired time period in which the system transitions between a previous occupancy mode and the *at least one* occupancy mode (Col. 29, line 25 - Col. 30, line 24; Col. 33, line 60 - Col. 34, line 3).

Referring to claim 64, Ehlers teaches the method above, including the step of allowing the user to set *at least one* start time for the *at least one* occupancy mode (Col. 29, lines 33-35).

Referring to claim 65, Ehlers teaches the method above, including the step of transitioning from the previous occupancy mode to the *at least one* occupancy mode at a time equal to the *at least one* start time (Col. 29, lines 25-35).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 15, 16, 20, 55, 56, 60, and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,924,486 to Ehlers as applied to claims 11-14, 17-19, 53, 54, 57-59, and 61-65 above, and further in view of U.S. Pat. No. 3,181,791 to Axelrod.

Referring to claims 16 and 56, Ehlers teaches the system and method above, wherein the thermostatic device tracks user adjustments to the temperature setpoint and responsively modifies *at least one of* a predetermined number of degrees (Col. 12, lines 47-67; Col. 14, lines 12-19).

Referring to claim 80, Ehlers teaches the method above, wherein the scenario is selected by the customer (Col. 17, lines 35-62).

Referring to claims 20 and 60, Ehlers teaches the system and method above, wherein the temperature and environment management system includes *at least one of* a humidifier and a de-

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humidifier (Col. 10, lines 15-30; Col. 13, lines 6-22; Col. 14, lines 20-28), wherein the thermostatic device controls the *at least one of* a humidifier and a de-humidifier as function of the effective setpoint, the predetermined offset (Col. 38, lines 6-21).

Referring to claims 20 and 60, Ehlers teaches all the limitations set forth above, however Ehlers fails to teach the thermostatic device controls the *at least one of* a humidifier and a de-humidifier as function of the effective setpoint, the predetermined offset, and the sensed temperature and humidity.

Referring to claims 15 and 55, Ehlers teaches all the limitations set forth above, however Ehlers fails to teach the system and method above, wherein the effective setpoint is equal to the temperature setpoint plus a predetermined number of degrees per a predetermined percentage increase in relative humidity for cooling applications and the effective setpoint is equal to the temperature setpoint minus a predetermined number of degrees per a predetermined percentage increase in relative humidity for heating applications.

However, Axelrod teaches analogous art, wherein a system for managing environmental comfort at a site, the site having a temperature and environment management system comprises: a humidity sensor for sensing humidity at the site and a temperature sensor for sensing air temperature at the site (Fig. 1, elements 20 and 30); and an thermostatic device coupled to the humidity sensor and the temperature sensor for receiving input from a user, the input including a temperature setpoint (Col. 3, lines 31-43; Col. 5, lines 30-33), the thermostatic device for determining an effective setpoint as a function of the temperature setpoint and the sensed humidity (Col. 3, lines 44-70) and for controlling the temperature and environment management

system to maintain air temperature at the site with a deadband defined by the effective setpoint and an offset (Fig. 1; Col. 2, line 37- Col. 3, line 8), wherein

referring to claims 15 and 55, Axelrod teaches the system and method above, wherein the effective setpoint is equal to the temperature setpoint plus a predetermined number of degrees per a predetermined percentage increase in relative humidity for cooling applications and the effective setpoint is equal to the temperature setpoint minus a predetermined number of degrees per a predetermined percentage increase in relative humidity for heating applications (Fig. 1; Col. 3, lines 44-70); and wherein

referring to claims 20 and 60, Axelrod teaches the system and method above, wherein the temperature and environment management system includes *at least one of* a humidifier and a de-humidifier (Fig. 2, element 75), wherein the thermostatic device controls the *at least one of* a humidifier and a de-humidifier as function of the effective setpoint, the predetermined offset, and the sensed temperature and humidity (Fig. 1; Col. 2, line 37- Col. 3, line 8).

Therefore it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teachings of Ehlers with the teachings of Axelrod.

One of ordinary skill in the art would have been motivated to combine these references because Axelrod teaches an automatic comfort control system responsive to a plurality of mathematical definitive conditions for regulating an environment to any one of the definitive conditions in accordance with the actual conditions sensed therein. Furthermore, Axelrod teaches and improved control system responsive to a plurality of variables for providing regulation to any one of a plurality of preferred coordinate variable conditions and for maintaining a substantially constant effective temperature in a controlled environment. Further

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still, Axelrod teaches an improved system for maintaining said substantially constant effective temperature by controlling both temperature and humidity within a sensed environment in a manner so as to utilize the temperature and humidity control equipment to maximum efficiency by minimum usage. Further still, Axelrod teaches a comfort zone computer for controlling the humidity control system and temperature control system in accordance with the sensed temperature and humidity (Col. 1, lines 39-72).

Conclusion

20. The prior art or art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents or publications are cited to further show the state of the art with respect to controlling temperature as a function of the temperature setpoint, and the sensed temperature and humidity.

U.S. Pat. No. 6,070,110 to Shah (Fig. 4).

U.S. Pat. No. 5,675,503 to Moe (claim 1).

The following patents or publications are cited to further show the state of the art with respect to power distribution networks configured to deliver power from two or more sources.

U.S. Pat. No. 6,816,757 to De La Ree (Col. 1, lines 13-24).

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754.

The examiner can normally be reached on 9:30am-6:00pm, M-F.

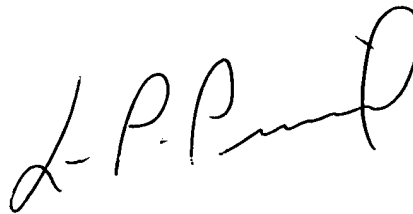
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SPS

Sean P. Shechtman

November 10, 2004

A handwritten signature in black ink, appearing to read 'L. P. Picard', with a stylized, looping flourish at the end.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100